cooling of the mass." The original body of magma was leucocratic, so that the alumina and alkalies with silica enough for the formation of feldspar and feldspathoids, crystallized first, and hence in the periphery of the mass.

Densities of Liquid and Solid Rock Magmas. — In view of the fact that a recently proposed theory of volcanic action accounts for the eruption of lava as the consequence of the expansion of liquid magma in its passage to the solid state, a paper by Doelter,[1] in which this author discusses the densities of liquid and solid magmas, becomes of great interest. By means of a series of experiments, in the course of which fragments of known density were allowed to float or sink in molten magmas, Doelter obtained a series of results which are embodied in the following table, the figures indicating specific gravities:

	NATURAL SUBSTANCE.	MOLTEN.	GLASSY.	CRYSTALLINE.
Melanite. . . .	3.75	3.55–3.6	3.55–3.6	3.65–3.7
Augite	3.3	2.92	2.92–2.95	3.2 –3.25
Limburgite . . .	2.83	2.55–2.57	2.55–2.57	2.75–2.78
Lava (Ætna) . .	2.83	2.58–2.74	2.71–2.75	2.81–2.83
Lava (Vesuvius) .	2.84	2.68–2.74	2.69–2.75	2.77–2.81
Nephelinite. . . .	2.74	2.70–2.75	2.686	2.72–2.75
Leucitite. . . .	2.83	2.60–2.68	2.68–2.72	2.75–2.79

The Laccolite of Shefford Mountain.[2] — Shefford Mountain is the easternmost of the series of nine hills of igneous material that rise above the St. Lawrence valley in the neighborhood of Montreal. It is thought by Dresser to be an old laccolite in Lower Cambrian and Trenton sediments. Its material consists of essexite, nordmarkite, and pulaskite, the first two of which possess almost the typical character of these rocks. Associated with these are dark-colored dykes of a camptonitic type, and others of a theralitic type, and light-colored ones of trachyte and bostonite. The latter are the younger. All the rocks are thought to be differentiated products of a single magma. The primary magma, according to this view, had nearly the composition of pulaskite. Excluding the dykes the first differentiate was the basic essexite, the second was the acid nordmarkite, and the third the intermediate pulaskite. The analyses of the essexite (I),

[1] *Neues Jahrb. of Univ.*, etc., Bd. ii (1901), p. 141.
[2] *Amer. Geologist*, vol. xxvii (Oct., 1901), p. 205.

the nordmarkite (II), the pulaskite (III), and the mean between the first two (IV) follow:

SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	MnO	CaO	BaO	MgO	K_2O	Na_2O	P_2O_5	CO_2	SO_3	Cl	H_2O	Total
53.15	1.52	17.64	3.10	4.65	.46	5.66	.13	2.94	3.10	5.00	.65	.39	.28	.07	1.10 =	99.86
65.43	.16	16.96	1.55	1.53	.40	1.36		.22	5.36	5.95	.02		.06	.04	.82 =	99.84
59.96	.66	19.12	1.85	1.73	.49	2.24	.12	.65	4.91	6.98	.14		.08	.14	1.10 =	100.17
59.29	.84	17.30	2.32	3.09	.43	3.51	.07	1.58	4.23	5.47	.34	.20	.17	.06	.96 =	99.85